

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~High~~ A high frequency cavity resonator for nuclear magnetic resonance, comprising:

a set of transmission lines; and

a shield surrounding these transmission lines,

~~characterized in that~~ wherein each of these transmission lines comprises a straight bar which is divided into elongated cylindrical segments, these segments being or being made electrically conducting, the bar being provided with thin solid dielectric elements ~~inserted~~ disposed between the segments.

Claim 2 (Previously Presented): A high frequency cavity resonator according to claim 1, in which the cylindrical segments are made from a dielectric material whose external surface is made electrically conducting.

Claim 3 (Currently Amended): A high frequency cavity resonator according to claim 1, this cavity being provided with frequency tuning means, these tuning means being capable of modifying the thickness of the thin solid dielectric elements.

Claim 4 (Currently Amended): A high frequency cavity resonator according to claim 3, in which the thin solid dielectric elements are elastically deformable.

Claim 5 (Currently Amended): A high frequency cavity resonator according to claim 1, wherein the thin solid dielectric elements have a substantially circular cross section.

Claim 6 (Currently Amended): A high frequency cavity resonator according to claim 1, wherein the thin solid dielectric elements have a main surface which is substantially perpendicular to the bar axis.

Claim 7 (Currently Amended): A high frequency cavity resonator according to claim 1, in which the segments and the thin solid dielectric elements comprise drillings, each transmission line also comprising straight dielectric connecting parts that pass through the drillings and on which the segments and the thin solid dielectric elements can slide.

Claim 8 (Currently Amended): A high frequency cavity resonator according to claim 1, wherein the cylindrical segments and the thin solid dielectric elements of the same bar substantially have the same external diameter.

Claim 9 (Previously Presented): A high frequency cavity resonator according to claim 1, in which the transmission lines are substantially parallel and uniformly distributed on a cylindrical surface.

Claim 10 (Previously Presented): A high frequency cavity resonator according to claim 1, comprising two ends, one of which is open and the other is closed.

Claim 11 (Previously Presented): A high frequency cavity resonator according to claim 1, wherein the shield has a cylindrical structure.

Claim 12 (Previously Presented): A high frequency cavity resonator according to claim 10, in which the shield comprises a re-entrant part on the open end of the cavity resonator.

Claim 13 (Previously Presented): A high frequency cavity resonator according to claim 1, wherein an electrically conductive connection is established between each bar and the shield.

Claim 14 (Previously Presented): A high frequency cavity resonator according to claim 1, which is used in magnetic resonance imaging as a transmitting or receiving system.

Claim 15 (Previously Presented): A high frequency cavity resonator according to claim 1, which is used in the field of Magnetic Resonance Spectroscopy as a transmitting or receiving system.

Claim 16 (Currently Amended): ~~Nuclear~~ A nuclear magnetic resonance device comprising ~~[[a]]~~ the high frequency cavity resonator according to claim 1.

Claim 17 (Currently Amended): A multiple conductor wave guide, ~~constituted of~~ comprising:

a transmission line which is connected with ~~a set of transmission lines,~~ or elementary conductors,

~~wherein characterized in that these~~ the elementary conductors are placed on a cylinder and ~~in that the~~ an axes of ~~these~~ the elementary conductors are substantially parallel to ~~the an~~ eylinder-axis of the cylinder, and ~~in that~~

each of ~~these transmission lines, or the~~ elementary conductors[[,]] comprises,

a rectilinear bar which is divided into elongated cylindrical segments, these segments being or being made electrically conductive, the bar being provided with thin solid dielectric elements which are ~~inserted~~ disposed between the segments, the ~~set of~~ elementary conductors being conductively connected with a shield which surrounds ~~this set~~ the elementary conductors.

Claim 18 (Previously Presented): A high frequency cavity resonator according to claim 11, in which the shield comprises a re-entrant part on the open end of the cavity resonator.

Claim 19 (New). A multiple conductor wave guide according to claim 18, wherein the elementary conductors include a set of transmission lines.